

THE PROPOSED

TORONTO, GREY AND BRUCE

NARROW GAUGE RAILWAY;

DISCUSSED IN THE LIGHT OF REPORTS BY

NARROW GAUGE ENGINEERS.

---

*With some Reasons why a Charter should not be granted  
to the Toronto, Grey and Bruce Railway Company.*

---

FROM THE HAMILTON SPECTATOR.

---

HAMILTON:

PRINTED AT THE "SPECTATOR" STEAM PRINTING OFFICE, PRINCE'S SQUARE.

1868.

1868

(14)

B2458

# NARROW GAUGE RAILWAYS

DISCUSSED IN THE LIGHT OF REPORTS OF NARROW  
GAUGE ENGINEERS, WITH SPECIAL REFERENCE  
TO THE TORONTO, GREY AND BRUCE  
RAILWAY.

---

[From the Hamilton Spectator.]

Whatever may be our opinion on the subject of narrow gauge railways, of which so much has been said lately, no one can withhold a meed of praise from the energetic promoters of this comparatively new theory, for the perseverance with which they are striving to make converts to their scheme. If Mr. Geo. Laidlaw of Toronto, possesses no other attribute, he cannot be denied the merit of enthusiasm in relation to this system of railways, among the advocates of which, in this country, he stands in the foremost rank. His pamphlet, issued some time ago, was the first thing which called public attention prominently to the question; and since its issue he has left no opportunity unimproved to convince people that he was right. The deputation which recently visited the northwest counties, holding a number of meetings there, which, if we are to take the reports which appeared in the Toronto papers without allowance, were great successes, owed whatever success attended them to him. That he has aroused a certain interest in the question, in the county of Bruce especially, we do not pretend to deny. But that that interest is due to a preference on the part of the intelligent ratepayers of that county for the narrow gauge system of railway in the abstract, or for the Toronto route in preference to the Guelph, all our information leads us to doubt. A letter on this subject, addressed to the Press of the County of Bruce, by Mr. Thomas White, Jr., which we republish elsewhere, much more accurately accounts for the apparent assent of the public meetings held in that county, and affords information to its residents which we are sure will satisfy them that the Wellington, Grey and Bruce Railway Company, with which their interests are much more closely connected, is neither indifferent nor idle in the matter of pressing forward the construction of this important work.

Mr. Laidlaw's latest effort is the production of a sixty-nine page pamphlet, embodying his correspondence with leading engineers and railway managers in those countries in which the narrow-gauge railways have been built and are now running, and its distribution among the members of the Legislative Assembly of Ontario. The correspondence affords a great deal of information of a highly important character; and as it is designed to convince the people of Ontario, not simply of the intrinsic value of this class of railways, but of their superiority over the broad-gauge, the standard gauge of this country, we propose, as briefly as the subject will permit, to examine its statements, and to show, as we think we shall be able to do, that the evidence here produced, instead of justifying the granting of a charter to the Toronto, Grey and Bruce Railway Company, ought to lead to the refusal of that charter, as it certainly fails to convince anyone acquainted with the country proposed to be served by that road, that it would be prudent to adopt this description of road.

## ADMITTEDLY INFERIOR CHARACTER OF THE NARROW-GAUGE.

What strikes one forcibly in reading this correspondence is, that not one of the gentlemen who speak of these narrow-gauge railways, attempts to justify their construction except through sparsely settled and comparatively inhospitable districts, where traffic for the more substantial broad-gauge road could not be looked for, and where, therefore, that class of road could not be built; and as feeders to main lines, all of which, even in the countries alluded to, are broad gauge. Mr. John T. Schwartz, Director of the Drammen Randsfjord Railway, expresses the opinion "that railways of a narrow gauge, like ours, will be the most effective and appropriate means of commu-

"necation for any country with comparatively limited resources and moderate traffic."—

Mr. Fitzgibbons takes the same ground substantially, maintaining that "it is the wisest possible policy to provide only for the wants we now foresee, and carry out effectually a system of Railways which is within our present means, leaving posterity to decide what further expenditure should be incurred to meet its wants." Mr. Boyd, of New Brunswick, the consulting engineer of the Toronto narrow gauge gentlemen, tells us that "after fairly discussing the matter, the Swedish Engineers have decided upon a three feet six inch gauge for all local lines or feeders." C. Phil, who is one of the leading authorities quoted by Mr. Laidlaw, and who, judging by his letters, is quite as great an enthusiast, in the matter of these narrow gauge Railways as that gentleman himself, after giving a number of facts in relation to them says: "In stating these facts it is not my intention to advocate a high speed on these lines, with light engines of only 3 feet to 3 feet 9 inches driving wheels, as on lines of a broader gauge, they are not designed for high speed, but to suit circumstances where this is of a secondary consideration." And he goes on to point out that "If the 4 ft. 8½ in. gauge is sufficient for a country with vast traffic and ample resources, the 3 ft. 6 in. gauge may be all that is required in places less favorably situated." Sir Charles Fox & Son, referring to the Queensland narrow gauge Railways, says: "These lines are for the most part made through an undeveloped country, for the purpose of opening it up."

These statements all go to prove that the narrow gauge Railway is not, even in the estimation of its principal defenders, at all equal to the broad gauge. Indeed M. Phil, contemplating the possible increase of traffic, from the development of the country, and the consequent insufficiency of the narrow gauge Railway, points out "that a double line would naturally suggest itself as meeting the requirements of increased traffic every way better than a single line of wide gauge;" which in plain English means that the single line of wide gauge would meet the wants of a productive and rapidly increasing community as well as a double line of narrow gauge railway. The ground upon which alone those Railways are justified is, that as their first cost is smaller, they can be built through districts where the probable traffic is not sufficient to induce the investment of capital in the more substantial description of railway. They are justified, in fact, simply upon the same

principle that horse tram-ways have been built, as better adapted for the taking out of lumber or produce than the ordinary waggon, and as yet within the means of the community. It is important that this fact should be clearly apprehended, in order to a fair discussion of this project of a narrow gauge railway from Toronto through the Counties of Wellington, Grey and Bruce. It relieves the whole question of irrelevant matter, and gives us simply two propositions to determine: First, whether the country through which this road is proposed to pass, is such an one as Mr. Laidlaw's correspondents describe as capable of being served by this new cheap railway system; and second, whether, in fact, there is that difference of cost between the two projects before the public—the Wellington, Grey and Bruce, broad gauge, and admittedly superior road, and the Toronto, Grey and Bruce, narrow gauge, and admittedly inferior road—as to justify the construction of the latter. It is in the light of these two propositions that we propose to discuss the question, and we shall, we think, be able to prove, without doubt, that the answer to both of them is against the narrow gauge scheme, and in favour of that from Guelph, of a uniform gauge with the Grand Trunk and Great Western Railways.

#### NARROW-GUAGE RAILWAY NOT SUFFICIENT FOR WELLINGTON, GREY AND BRUCE.

We have pointed out that, according to the testimony of the Engineers and Railway managers whose statements are quoted by Mr. Laidlaw, the narrow gauge cheap Railway is only urged as being peculiarly adapted for new settlements, where the scattered state of the population, and the comparatively small productive power render it impossible or difficult to obtain the necessary capital for the more substantial broad gauge road; and our first proposition, therefore, in discussing the merits of this new class of Railways is this: Do the Counties of Wellington, Grey and Bruce, through which it is proposed to build this narrow gauge road, come within the description of country for which these railways are said to be peculiarly well adapted. If we can show that they do not, that on the contrary, they are superior both in population and productive power to any similar extent of country in the Province of Ontario, we claim that, even upon the testimony of these narrow gauge engineers themselves the project must be condemned, as utterly inapplicable to this important district.

THE NORTH-WEST DISTRICT COMPARED WITH THE GREAT WESTERN AND NORTHERN.  
COMPARISON OF ROLLING STOCK ON NARROW GAUGE AND NORTHERN RAILWAYS.

The simplest mode of determining this question is, first by a comparison of the North Western Counties proposed to be supplied with railway facilities, and other districts already supplied in Ontario. In the Prospectus of the Wellington, Grey and Bruce Railway, recently issued, some exceedingly striking and interesting facts are given upon this point. Taking the country for from fifteen to twenty miles on each side of the proposed road from Guelph to Lake Huron, and comparing it with a similar extent of country tributary to the Western hundred miles of the Great Western Railway, we find the following results: The former, during the nine years between 1852 and 1861, increased in population no less than two hundred and ninety-three per cent; and the latter but fifty per cent. In 1861 the population of the former numbered 8,445 souls more than the latter. The former produced, according to the census of 1861, about three million bushels of cereals, the exact figures being 2,923,345 bushels, while the latter only produced 2,146,376 bushels. Comparing the former District with that tributary to the Northern Railway, the result is scarcely less favourable. In 1861, the occupiers of land in the Wellington, Grey and Bruce section exceeded in number those of the Northern by no less than forty-four per cent; the area of lands under cultivation was only seven and a-half per cent less, while the area of wood and wild lands—that is, of lands in the hands of settlers, but as yet uncleared—exceeded by one hundred and thirty-seven per cent that of the Northern district. Now, what must be borne in mind is this, that the North-west Counties have attained this large development without the impetus which railways always give to a country. When it is remembered that the total tonnage going south over the Northern Railway in 1866, had increased over that of 1855, the first year during which the road was opened its entire length, no less than two hundred and twenty-nine and a-half per cent, the result of a similar cause—the construction of railways—through the North-west Counties, would develop them far beyond the value of the district traversed by the Northern Railway. Indeed it is not too much to say, looking at the character of the country, and its development in the past, that, to-day, the North-western district would yield larger returns to a railway, were one built through it, than the Northern now does.

Looking at the question in the light of these comparisons made from official data, let us see how far this narrow gauge railway scheme is calculated to meet the wants of the District, taking the figures in relation to Mr. Laidlaw's pet theory from his own published authorities. Among the papers published by Mr. Laidlaw, is a tabular statement furnished by Carl Pihl of Christiania, giving the particulars of these 3 feet 6 inch railways in Norway. The quantity of rolling stock on four lines is given in this table as follows:—The Hammar Elverum Railway had 3 engines, 8 carriages and 50 goods waggons—its length was 24½ miles, and it cost \$15,710 a mile. The Throndhjem Støren line had 4 engines, 10 carriages and 60 goods waggons; its length was 31½ miles and it cost \$25,000 per mile! The Drammen Randsfjord Railway line had 6 engines, 15 carriages and 145 goods waggons; its length was 56 miles and it cost \$22,815 per mile! And the Kongsvinger Railway had 9 engines, 35 carriages and 272 goods waggons; its length was 71 miles, and it cost per mile no less than \$30,350! Now these figures, which are furnished by Mr. Laidlaw himself, enable us to judge somewhat accurately of the capacity of these railways, and of their adaptation to a Country like that proposed to be traversed by them. We have shown that it is not unreasonable to assume that the traffic returns of the Wellington, Grey and Bruce will from the very outset exceed those of the Northern Railway. Let us see then what quantity of rolling stock is required on the Northern Railway to meet the wants of the Country. By the Annual Report of the Directors of the Northern, for the year 1866, we find the rolling stock in use stated as follows:—

First class passenger cars, 8 wheels,	18
Directors' car.....	1
Second-class cars.....	1
Mail and baggage cars.....	3
Freight conductors' cars.....	7
Box freight cars.....	114
Long platform cars.....	229
Short do.....	4

Total cars of all kinds..... 379

Hence the number of engines was 18 the lightest being 24½ tons, and the heaviest 33½ tons, while the engines on the narrow gauge railways are but 14 tons, the power as every one must know being in proportion to the weight. Thus we find that, on the best equipped of the narrow gauge railways—that which cost over

thirty thousand dollars a mile, instead of fifteen thousand, the number of cars was 310 against 379 on the Northern, and the number of engines was 9 against 18! But even those figures do not adequately represent the difference. M. Pihl tells us that these four-wheeled light carriages for light narrow gauge railways, will carry but five tons net, while the cars on the Northern carry just double or ten tons of paying freight. And the passenger carriages, on the narrow gauge, are adapted for thirty seats each, while those on the broad gauge have from sixty to seventy each. So that in reality, so far as the carrying capacity of the rolling stock on the two classes of roads is concerned, even taking the most heavily stocked of the narrow gauge railways cited by Mr. Pihl, and published approvingly by M. Laidlaw, that which cost over thirty thousand dollars a mile, and the difference is this: Narrow gauge 155 cars, Northern 379! We are inclined to think that by the time the narrow gauge is stocked up to the present capacity of the Northern Railway, two results will follow: First, the "cheap" feature will have vanished; and second, the road will be so blocked up with trains, endeavoring to get the produce to market, as to prove an utter failure.

Upon this point, Mr. Cumberland, in a letter addressed by him to the people of Grey, shows that the freight load of each train on the Northern Railway is 260 per cent more than is claimed as the greatest carrying power of a "cheap" train, even on lighter grades; and he establishes very clearly, that, to perform the work which the Northern to-day performs—assuming, according to Mr. Laidlaw's authorities, that gross loads of 150 tons represent the transport power of cheap railways—it will require fifteen trains to move the same tonnage as the Northern does with seven "involving, of course, an extravagant increase in the number of engine-drivers, firemen, conductors, brakemen, and all other charges embraced in the cost of transport." We think, therefore, that we have established our first proposition, that the Counties of Wellington, Grey and Bruce do not come within that description of country for which—even according to their admirers—the narrow-gauge railway is adapted; and second, that even assuming the highest standard of narrow-gauge given in the authorities quoted by Mr. Laidlaw, a railway costing not \$15,000, but \$30,000 per mile, it would be utterly insufficient to meet even the present, to say nothing of the prospective traffic of the fine district proposed to be served by it. The question of cost, and

the argument based upon it, will next receive our attention.

#### THE QUESTION OF COST.

The second important question which presents itself to us in discussing this subject of the narrow gauge railway, is whether, in fact, there is that difference of cost between the two projects before the public—the Wellington, Grey and Bruce broad gauge, and admittedly superior road, and the Toronto, Grey and Bruce narrow gauge, and decidedly inferior road—as to justify the construction of the latter. We have already shown conclusively that the District proposed to be served by these railways is not of the class which is described as being well served by the narrow gauge system; and that, in fact, the best stocked and most expensively constructed of these cited in Mr. Laidlaw's pamphlet does not possess more than half sufficient rolling stock to meet the wants of the Northwest country. Having established that, we might leave the question. But so much stress has been laid upon this question of cost, that it is due to the fair discussion of the subject to refer more particularly to it.

Mr. Boyd estimates the cost of the narrow-gauge railway from Toronto to Lake Huron direct, at \$15,000 a mile. He has not made any personal examination of the country, and assumes therefore his figures from the general cost of such a railway, and from estimates made some time ago by Mr. Frank Shanly, in a letter to the Reeve of Southampton. We shall not, however, we hope, be accused of unfairness, if we prefer taking the statements furnished in Mr. Laidlaw's pamphlet of the actual cost of these railways in Europe, where they have been built, and are now in actual operation. As the testimony of the engineers and managers of those roads is all that we have, of a practical character, to justify the adoption in Canada of this new system of railway, no complaint can be made if we avail ourselves of the facts furnished by them for the purposes of this discussion.

#### ESTIMATE OF SIR CHARLES FOX & SON.

We have already, in another connection, referred to the cost of these railways, but it is as well to repeat the figures. Mr. Boyd, in his report to the Directors of the Toronto, Grey and Bruce Railway, in which he epitomises the testimony of a number of European engineers, after referring particularly to the statement of M. Carl Pihl, in relation to the Norwegian lines, remarks that "Sir Charles Fox & Son, speaking of such a line in this country, say: 'We have appended an

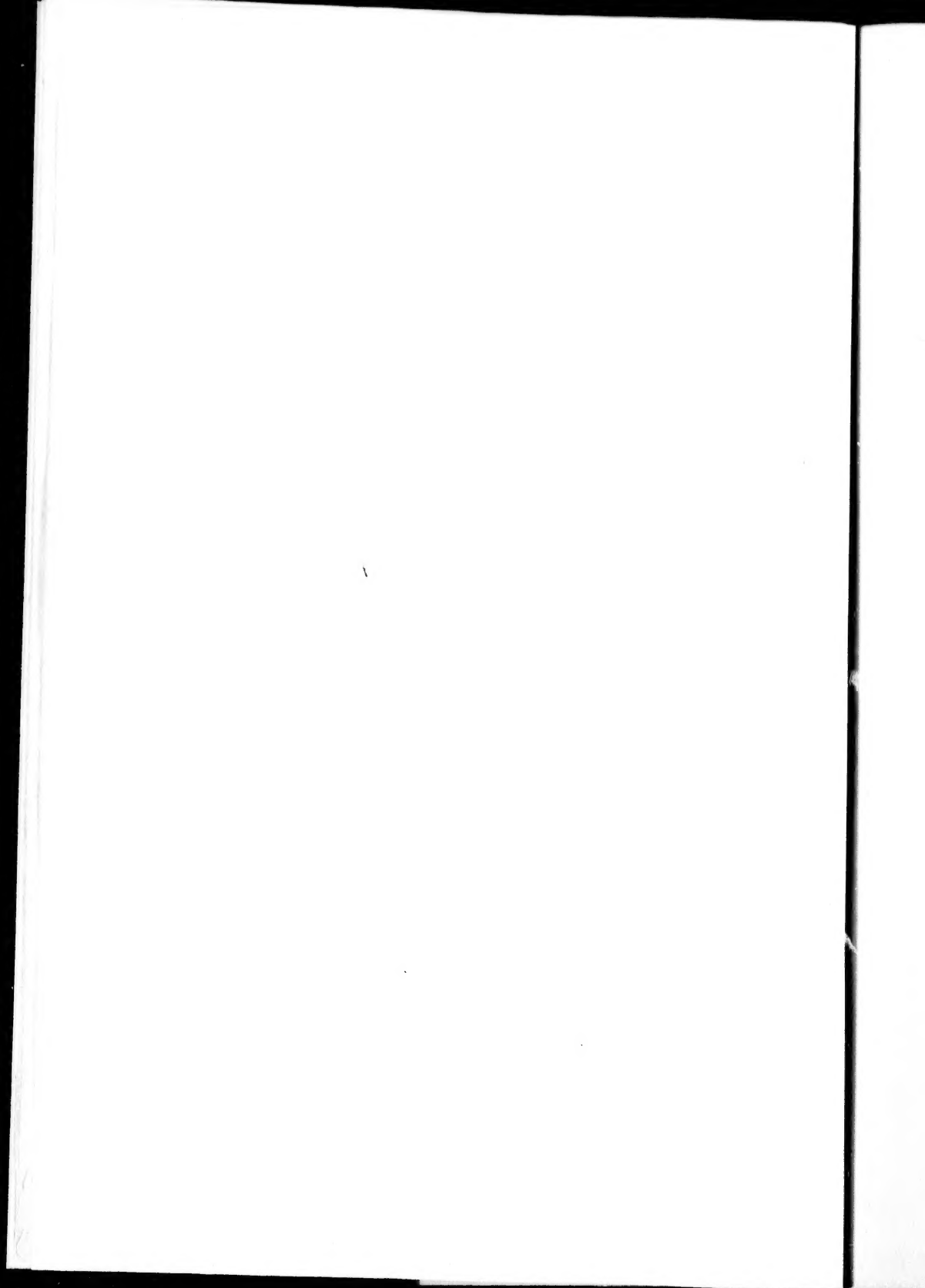
next re-

which  
is sub-  
way, is  
ference  
before  
y and  
y supe-  
y and  
infer-  
tion of  
n con-  
l to be  
of the  
; well  
; and  
most  
ited in  
ossess  
ock to  
untry.  
leave  
s has  
; that  
sub-

e nar-  
Lake  
e has  
of the  
gures  
lway.  
ago  
the  
not,  
nfair-  
ments  
of the  
rope,  
now  
y of  
oads  
trac-  
a of  
laint  
the  
oses

ion,  
but  
Mr.  
the  
r, in  
of a  
re-  
t of  
we-  
Fox  
this  
an





"estimate of the cost, in which we believe we have fully provided for contingencies, and which amounts to £3,000 'per mile.'" It would have been satisfactory had the particulars of Sir Charles Fox's estimate been given among the other papers that are published. But as this is not the case, we are left to determine its value, by reference to these Norwegian lines, upon an examination of which he has ventured upon the statement that a road in this country, on the line of the proposed Toronto, Grey, and Bruce Railway, would probably cost \$15,000 a mile. It is a somewhat remarkable fact, however, that the only details of cost furnished by this firm, have relation to a line constructed by them in India. Having been requested by a Mr. Middleton to communicate with Mr. Laidlaw on the subject of these light narrow gauge railways, they say, among other things, as follows: "We have also, in conjunction with another engineer, constructed a line in India upon the 3 feet 6 inch gauge, as a tributary to the Madras Railway. *This line passes through an easy country, excepting that there are a good many bridges, in order to provide water-way. The land was provided by the government, and the works were carried out by the Company's own Engineer. The rails weigh thirty-six lbs to the yard, laid on traverse track sleepers. The rolling stock and engines, are only so far different from those used in Queensland as is necessary to meet the difference of climate. The stations are large bungalows, with ample accommodations. The line is single, with passing places. The total cost of the works, including freight from England, man- agement, &c., has only been £3,200 (\$16,000) per mile; or, including rolling stock, stations, and stores, £3,800 (\$19,000) per mile.*" Now, this road, it will be seen, was through an easy country, had the land given to it by the Government, and yet cost, not \$15,000, but \$19,000 a mile!

#### WHAT NARROW-GUAGE RAILWAYS HAVE ACTUALLY COST.

We have frequently had occasion to refer, in these articles, to M. Carl Pihl, and to the evidence which he has furnished to Mr. Laidlaw. In treating of the capacity of these railways to serve the Counties of Wellington, Grey and Bruce, we cited the cost and equipment of some of the Norway lines, and, as the testimony of Sir Charles Fox & Son, as to the probable cost of such a railway in this country, is based upon these Norway lines, the facts may be repeated. The following is the

cost of the Norway lines now running or under construction:

Hamar Grundset.....	\$16,141
Thronthjem Storen.....	\$20,560
Drammen Randsfjord.....	\$22,815
Christiana Drammen.....	\$34,501
Hamar-Elverum.....	\$15,710
Kongsvinger.....	\$30,350

Thus it will be seen, that, while the narrow-gauge advocates urge, as the special merit of their scheme, that the road can be built for \$15,000 a mile, the actual average cost of those already constructed in Norway, where they have had a more general trial than in any other country, is \$24,346 a mile, according to the evidence furnished by Mr. Laidlaw himself!

#### THE PRICE OF LABOUR IN NORWAY.

But, in considering this question of cost, there is another element which must be taken into account—that is, the price of labour in the two countries respectively. M. Carl Pihl, who furnishes the table from which the above figures are quoted, has been good enough to furnish us with data on this subject. In his letter to Mr. Laidlaw, he says: "Being entirely unacquainted with the prices of labour and materials in Canada, I can of course give no opinion as to the probable minimum cost with you for a railway of the class here described, but I will here add, for the guidance for such estimate, the current prices of labour here, which are as follows:

"A common labourer, 1s. 6d. to 1s. 10d. per day.

"A bridge carpenter, 2s. 3d. to 2s. 9d. per day.

"A mason, 2s. 3d. to 2s. 9d. per day.

"For piece work is paid:—

"For 1 cubic yard excavation moved into bank, earth, about 6d in light soil.

"For 1 cubic yard excavation moved into rock, average 3s.

"Cost of timber equal to labour in erection, or very nearly so, according to class of work."

We ask the reader's attention to this scale of prices, and we think it will be generally conceded that when the higher wages, at least three times as great, which prevail in this country, are considered, the cost of the railway in Canada, less the iron, will be at least twice or three times as great.

#### ROLLING STOCK ON THESE "CHEAP" RAILWAYS.

The quantity of rolling stock on these roads, even on the most expensive, as compared with that on the Northern Rail-

way, which traverses a somewhat similar district to that proposed to be served by this light narrow gauge road to Lake Huron, has already been stated. Some particulars are given by Dr. O. T. Brock, in relation to the Hamar-Elverum Railway, which it will be seen cost \$15,710 per mile—at the low scale of wages quoted, and which is the least expensive of those mentioned in Mr. Laidlaw's pamphlet, that deserve attention in this connection. It has a length of 24 miles. The railway has ten stations and stopping places. The service on most of the stations is performed by a station-master only, who has his residence in the station building; he attends to the telegraph, and has access to hired assistance, when necessary for the loading and receiving of the goods, there being with the train an extra guard or two to assist at the station. We are told that "for the traffic there are three tank locomotives, each weighing with coal and water, 15 tons, with 0.3 tons on the two pair driving wheels. Of these engines there is rarely more than one used at a time. The rolling stock consists of five passenger carriages, each for 30 seats, 3 brake vans, and fifty goods waggons, all on four wheels each. For the engine service, there are, besides the foreman of the repairing shop, who has also to make duty as a driver when necessary, 1 engine-driver, 1 stoker, 2 guards, and 4 workmen in the shop." We certainly think the Hamar-Elverum Railway realizes the ideal of a cheap railway with a vengeance, although it cost more per mile than these narrow-gauge gentlemen assume as the cost of their road to Lake Huron. But we put it to the intelligent ratepayers of Wellington, Grey and Bruce, whether, looking at the rolling stock on the Northern—every car being equal in carrying capacity to two of the narrow-gauge cars—they think such a system is calculated to serve the interests of their productive and rapidly increasing Counties.

IS THE QUESTION HERE A "CHEAP" RAILWAY  
OR NONE.

We have thus shown, that, viewed in the light of the evidence furnished by Mr. Laidlaw himself, the pretension that a narrow-gauge railway can be built from Toronto to Lake Huron, with the heavy rock cuttings which have to be encountered in making the ascent from the Lake Ontario level, and equipped to meet the wants of that growing district, at \$15,000 a mile, is simply a delusion on the part of the promoters of that road, or a wilful deception attempted to be practiced by them upon the people of this country. As a

matter of fact, these railways have only been constructed, where they have been built, through districts where there was not traffic sufficient to justify the construction of the more substantial broad-gauge railway. M. Carl Pihl, candidly admits this. In a communication to *The Engineering*, in reply to an article against these narrow gauge railways, he said:—"When it is said that the adoption of the narrow gauge has been enforced by the necessity for sharp curves, the conjecture is not quite in accordance with the facts of the case here, as we have hitherto been able to avoid curves of less than eleven chains. With us it has been a question of providing a railway communication at a comparatively small cost in a country of large extent, with little traffic and limited resources; and although the greater facility of traversing sharp curves is a decided, and no unimportant advantage to be gained by the use of the small gauge, this consideration has not enforced its adoption here. IT HAS BEEN IN THIS CASE THE CHOICE BETWEEN A CHEAP AND EFFICIENT RAILWAY OR NONE." That is the whole question in a nutshell. The cheap narrow gauge railway is better than no railway, and where it becomes a question, as, according to M. Pihl it was in Norway, between such a railway or none, there can be little doubt of the wisdom of adopting it. We shall proceed to show that no such alternative is presented to the ratepayers of the fine Counties of Wellington, Grey and Bruce.

NO SUCH ALTERNATIVE PRESENTED TO THE  
PEOPLE OF THE NORTH-WEST COUNTIES.

We say that no such alternative as that which compelled the adoption of the narrow gauge railways in Norway, is presented to the people of the North-west counties. With them it is not a question of a narrow gauge railway or no railway, and therefore the very grounds upon which these narrow gauge railways are advocated by their admirers, do not exist here. So far from this being the case, we shall, we think, have no difficulty in proving that, even taking the cost of the narrow gauge at the price named by Mr. Laidlaw, \$15,000 a mile, ignoring all the facts which he himself has furnished to us, and which go to show that the cost, wherever these roads have been built, has been much greater, the construction of the Toronto, Grey and Bruce Railway involves a much larger outlay of capital, in the first instance, the very thing which we are told is to be avoided, than the Wellington, Grey and Bruce Railway; and that therefore there is no doubt, on the ground of capital to be raised, that the

people of those counties will be advantaged by the construction of the railway to Guelph. We entirely concur in the doctrine laid down by these narrow gauge advocates, that the great desideratum at this time in the construction of railways in Canada is, that the capital required shall be reduced to the minimum sum. There is undoubtedly a difficulty in obtaining capital for the construction of any railway in this country at this time, and therefore any unnecessary expenditure of money, simply for the advantage of a particular locality, would be an act of madness of which we do not believe the people of Wellington, Grey and Bruce will be guilty.

#### THE RELATIVE DISTANCES BY THE BROAD AND NARROW-GUAGE.

According to the table of distances furnished by Mr. Laidlaw, and in which Walkerton is very fairly assumed as the most central point to be reached by each of the projected roads, Hamilton is, by the Great Western Railway and Guelph extension 100½ miles from Walkerton; Toronto is, by the Grand Trunk and Guelph extension, 108 miles; and by the Central light narrow gauge scheme, assuming an air line track—which if it were possible to construct, would do away with the peculiar necessity of the narrow gauge, the ability to make sharp curves, is 94 miles. Thus the saving of distance in reaching Lake Ontario would be 12½ to 14 miles less respectively by the Central light narrow gauge railway, a difference, however, which, in so far as passengers are concerned, would be far more than made up by the greater speed on the broad gauge road, and so far as freight is concerned, by avoiding the necessity for transshipment at Toronto. So that it is not unfair to this narrow gauge railway to assume that for practical purposes the distances would be the same to Toronto; and to Hamilton, if the reciprocity treaty should be renewed, and the American market become the principal one for produce, the distance by the narrow gauge would be twenty-seven miles longer, involving unavoidably the additional cost of transshipment. The pertinent point to consider, however, is the length of new road to be constructed by the two proposed routes,—and the capital required. Taking Walkerton again, as the common point of destination, the length of new road to be built by the Toronto, Grey and Bruce Railway would be at the very least 94 miles—supposing it to be a straight line, and by the Wellington, Grey and Bruce line, according to actual survey and location of the road, 60 miles,

—that is, in order to reach Toronto direct by the narrow gauge railway, 34 miles of additional railway construction is required. Let us see what this involves.

#### RELATIVE COST OF THE TWO ROADS.

That there may be no dispute about figures, we take the estimate of the promoters of this Central scheme themselves, as to its mileage cost, simply begging the reader to bear in mind the facts which we have already given on this point, and assume, for the purpose of this argument, that the road could be built and equipped for \$15,000 a mile. The cost therefore to Walkerton would be \$1,410,000. That is the cash capital that must be raised for that section of the road, and as the Company have, we believe, given up all hope of receiving a grant of land from the Government to aid in the construction of the road, the enterprise seems a sufficiently hazardous one. The Wellington, Grey and Bruce Railway is assumed by Mr. Reid, the Chief Engineer of the Great Western Railway, his estimate being based upon a thorough survey of the line, to cost \$15,500, exclusive of rolling stock and cars; but after making an ample allowance for right of way, general management, engineering, and all contingencies, and including, also, the thorough fencing and drainage of the line, the erection of good and commodious passenger and freight buildings, and an adequate number of water-tanks, wood-sheds, and engine-houses. The estimate, it is true, does not include rolling stock; but we may reduce the cost of the narrow-gauge by the per centage cost of the rolling stock on the lines cited by Mr. Laidlaw, that is, about ten per cent, leaving the cost of the narrow gauge at \$13,500 a mile, and in this way we arrive at something like a fair comparison. According to this calculation, the cash capital required to build this "cheap" narrow-gauge railway from Toronto to Walkerton, ready to receive the rolling stock, would be \$1,269,000, while the cash capital required to build the broad-gauge road from Guelph to Walkerton, ready for the rolling stock, would be but \$945,500, a difference in the amount of money to be raised, in favour of the broad-gauge road of no less than \$323,500! We fancy that, with these figures before the public, the argument which induced the people of Norway to adopt the narrow-gauge railway—namely, a cheap railway or none—and which is being presented to the honest yeomanry of the North-west Counties by men who ought certainly to know better, will be pretty effectually dissipated.

## THE QUESTION OF ROLLING STOCK.

We have assumed this calculation for both roads without rolling stock; but this question for rolling stock is one which cannot be ignored in the consideration of the relative merits of these two proposals to supply the North-west Counties with railway facilities. The most heavily equipped of the Norway lines, the particulars of which are furnished by M. Carl Pihl, is the Kongsvinger Railway; and we have already shown that its equipment is, in carrying capacity, not much more than one-third of that of the Northern Railway. The road cost \$30,350 a mile, and of this 14.1 per cent was for locomotives, carriages, and waggon; in round figures, \$4,239 per mile, the length of the road being 71 miles. Now, however difficult it may be to make comparisons between the cost of different roads, there can be no difficulty in relation to rolling stock. The scale of wages which prevails in Norway, and which we have given, justify us in the statement that the equipment of the narrow gauge railway in Canada will be at least as expensive: and in view of the requirements of the district, it is not too much to assume that rolling stock will cost at least \$4,000 a mile. It may be said that it will not cost any more than rolling stock on a broad gauge railway. We exceedingly doubt that. As a simple proposition it would seem reasonable that a car of ten tons capacity could be built for less money than two cars of five tons capacity each. But what we desire to point out is this: That by the adoption of the narrow gauge system, the Toronto, Grey and Bruce Railway is absolutely cut off from any assistance from the existing railways, to which it is simply an important branch; and that every car and every engine must be manufactured specially for the road. With the Wellington, Grey and Bruce Railway, the case is different. Of a uniform gauge with the existing main lines of the Province, if even a single car were not obtained by the Company, arrangements could be made to run the line in connection with either the Grand Trunk or Great Western, both of which roads would be only too glad to work it on a fifty per cent working expenses arrangement, leaving a handsome profit of at least ten to fifteen per cent to the proprietors of the road, putting the traffic at the lowest estimate of from \$2,000 to \$3,000 per mile per annum. So that, taking the estimate of Mr. Reid as to the cost of the Wellington, Grey and Bruce line, without rolling stock, and Mr. Boyd's estimate of the cost of the Toronto Grey and Bruce, with some allowance for a larger equipment than is manifestly in-

cluded in that estimate, the former can be built mile for mile, as cheaply, if not more cheaply, than the latter! But taking the difference in distances, the former can actually be built to Walkerton, or to any of the Lake Huron ports, for \$527,000 less than the latter. We ask the intelligent ratepayers of Wellington, Grey and Bruce to look at these figures in the light of the only argument which has been presented to them to justify their acceptance of the narrow gauge, that money cannot be obtained for the broad gauge, and that therefore, as M. Carl puts it in his letter to *The Engineering*, it is a "choice between a cheap and efficient railway or none."

## COMPETITION INCURRED BY THE NARROW GAUGE.

But there is another view which may be taken of this question. These thirty-four additional miles of railway construction, necessary to reach the main lines of the Province by the Toronto, Grey and Bruce narrow gauge Railway direct to Toronto, are mainly through a district already amply supplied with railway accommodation by the Grand Trunk and Northern Railways, and are therefore in direct competition with these lines; and they involve, moreover, the heavy rock cuttings necessary to make the ascent from the Lake Ontario level, of about thirteen hundred feet, through the middle Silurian ridge. Starting from Toronto, the line would bisect the angle formed by the junction of the Grand Trunk and Northern, and at twenty miles from the city, it would still be within ten miles of each of them on either side. At thirty miles it would still be within twenty miles of the Northern, and if Mount Forest is to be touched, assuming an air line, at forty miles from Toronto, it would still be within twenty miles of the Grand Trunk, having to the north the townships of Luther and Amaranth, the least valuable of the entire district, while the magnificent townships of Peel, Maryborough and Wallace would be left without any accommodation from the road. So that for the mere sake of making the entire North West country tributary to the prosperity of the city of Toronto, the ratepayers of Wellington, Grey and Bruce are asked to promote the construction of a railway, of an admittedly inferior capacity, through a district already occupied by two existing lines, involving a necessary break of gauge, a perpetual isolation from the general railway system of the Province, and requiring an outlay of upwards of half a million of dollars more than the Wellington, Grey and Bruce railway would cost. While the latter, bisecting the square formed by the Northern, the Grand Trunk, the Buffalo and

Lake Huron Railways and Lake Huron and Georgian Bay, avoids competition with any other Railway, runs through the finest portion of the country, and secures the absolute control of from twenty to twenty-five miles of territory on either side of it along almost its entire length! We think, in the light of these facts, our Northwestern neighbours will be slow to adopt the "cheap" narrow gauge railway which is so disinterestedly urged upon their attention.

THE INJUSTICE OF GRANTING A CHARTER TO THE  
NARROW GAUGE.

We have but a word or two to add in relation to the application which the Toronto, Grey and Bruce Railway are now making to the Legislative Assembly of Toronto for a charter. In His Excellency's speech on the opening of Parliament these words occur:—"In carrying out the special objects for which you have been constituted as a Legislative body, you will also be required to bestow your most serious consideration upon such applications as may be made to you for the incorporation of companies for Provincial purposes, or for the promotion of local works and undertakings. And it must be your endeavour, whilst affording due encouragement to individual enterprise, to protect the interests of the public at large from the consequences of rash or ill-advised speculation." Those are words of wisdom, and the Parliament which unanimously re-echoed them may fairly be expected to act upon their suggestions, in the legislation that comes before them. Nothing has tended more to the want of success in railway enterprise in Canada, or to rash and ill-considered speculation with regard to it, than the disposition of Parliament, without due consideration, to grant charters to all applicants, without the slightest reference either to the ability of the parties to construct the works, or the vested interests of other parties. During the last twenty years the number of roads actually constructed bears a very slight proportion to the number of charters granted, and the Legislature of Ontario will act wisely in seeing that this system, which has been discreditable to the country and injurious to all interests, is not perpetuated. The Wellington, Grey and Bruce Railway Company have already a charter. The Company are pressing their enterprise as rapidly as it is possible to press it, and with the most perfect good faith. Already no less than \$250,000 have been voted by the municipalities interested, towards the construction of the first forty-seven miles. All that is necessary

to enable the Company to put their enterprise upon the market is the amendment of the charter, which they are now asking for. Under these circumstances it is surely not too much that they should ask that no other charter be granted for a road going through the same territory. From Mount Forest to Lake Huron, the two roads, if the Legislature should be so unjust as to grant this second charter, would run on precisely the same line. The effect would be disastrous to both enterprises, and injurious to the country proposed to be served; and when, as we have shewn, the Company already in possession of a charter, can build their road for at least half a million of dollars less than the Toronto, Grey and Bruce narrow-gauge could be constructed for, even at the price named by the promoters of that scheme, every argument in favour of the new charter vanishes. We appeal confidently, therefore, to the Railway Committee and the Legislative Assembly not to embarrass a work which is in a fair way of being completed at once, by invading the chartered rights of an existing company, in granting an Act of incorporation to this "cheap" narrow gauge line.

WELLINGTON, GREY AND  
BRUCE RAILWAY.

To the Editor of the Paisley Advocate.

DEAR SIR.—I have read with a great deal of interest the reports of meetings recently held in the county of Bruce by a deputation of gentlemen from Toronto, who visited you as advocates of the narrow gauge Central Railway; and was somewhat struck by the fact that the resolutions proposed at all the meetings appear to have been carried unanimously. In conversation with a number of gentlemen from your county, I learn that the cause of this apparent unanimity is not by any means an enthusiastic belief in the superiority of the narrow gauge railway; but rather a feeling of disappointment that so little has been done to promote the completion of the Wellington, Grey and Bruce Railway, about the superior advantages of which there are scarcely, if I am rightly informed, two opinions in the county, and a hope that the action of the narrow gauge people, and of the ratepayers of Bruce in appearing to endorse their views, must spur the other Company on to greater exertions. Being assured that such is the feeling of the people of Bruce, I would be obliged if you will give the necessary space for a few lines of explanation.

The Wellington, Grey and Bruce Railway Company have gone as far as their present



charter will permit them, and until the amendments to that charter, which they are now seeking, are obtained, they cannot, however desirous of doing so, go any further.

They have secured the charter which was about to expire, and, in order to do this, have subscribed \$300,000 of stock, and paid in cash, as an instalment on that stock, \$30,000.

They have procured the passage of by-laws for the Wellington section of the road, amounting in all to \$250,000, and some of the Debentures under the terms of these by-laws have been deposited with the Treasurer of the Province, who holds them in trust for the municipalities, to be given out only on the certificate of an Engineer, to be mutually agreed upon, that the provisions of the by-law, entitling the Companies to receive them, have been complied with.

A survey of the road through the Wellington section has been made under the superintendence of Geo. Lowe Reid, Esq., the chief engineer of the Great Western Railway, and his report has been published. I send you a copy of it, appended to the prospectus of the Company, and as it is not lengthy, I would esteem it as a great favor if you would publish it for the information of your readers.

The Company might have gone into the county of Bruce and urged the subscription of Stock or Bonuses by your Municipalities: but as they are acting in good faith, and are not desirous of putting the people to inconvenience unnecessarily, they deemed it more wise and honest to secure all the necessary legislation to enable them to go on with the work; to place the first section under contract, and then to go on with the practical demonstration that they are in a position to build the road, and ask you to assist in carrying it on through your county. Hence the reason that they have not been holding meetings in your county, meetings which, while they would doubtless have kept up the railway excitement, would not secure the construction of the Railway itself one day sooner.

Legislation is necessary to enable the company to go on with the work for this reason: the charter requires a certain amount of stock to be subscribed and paid before bonds are issued. As the Municipalities are subscribing by way of bonus instead of stock, and as, for their protection, the company covenant to carry the railway to them before asking for their debentures, it is necessary to get legislative authority to issue bonds upon the bonuses, and to commence the work with the funds realised from these bonds.

So soon as this amendment to the charter is obtained, as obtained it will be, the Com-

pany have already assurance from capitalists that there will be no difficulty in putting the road under contract and pressing it forward to completion without delay.

I think these explanations ought to satisfy the rate-payers of Bruce that the absence of agitation in their county, on the part of the Wellington, Grey and Bruce Railway Company, has not been due to want of earnestness in the work, but simply to the fact that, until their charter was amended, no practical result could follow their inviting the rate-payers to attend meetings. All the rate-payers have to do is to keep themselves aloof from competing enterprises, in the meantime, and they shall have such evidence as will satisfy them fully of the good faith of that Company.

It is not my purpose to discuss here the question of the narrow gauge; that will have to be discussed before the Railway committee of the Legislative Assembly, on the application of the Company for a charter. But there are one or two statements which, I perceive from reports of the meetings held by the Toronto Delegation, have been made which demand a word of explanation. The first is, that while the narrow gauge can be built for \$15,000, the broad gauge will cost \$40,000 a mile. I refer you to Mr. Reid's report for the answer to this: simply remarking that \$15,000 a mile is said to be the ordinary price of these narrow gauge roads on tolerably level ground. But when they come to make their ascent from Toronto, of thirteen hundred feet, through rock cuttings, as the Grand Trunk and Great Western have been compelled to do, it will be found that the cost of the narrow gauge through the Silurian ridge will be much greater than that of the broad gauge, starting above that ridge, at Guelph, as the Wellington, Grey, and Bruce Railway starts.

A second point is the assertion that these narrow gauge railways have answered admirably in New Brunswick. The truth is, that there is not a mile of narrow gauge railway in that Province, and that although they are building local roads, they have not been induced, by the arguments which have urged upon them to adopt a system of railway which is condemned by every man of practical railway experience, as only suited to the wants of inhospitable and sparsely settled districts.

Trusting that the people of Bruce will at least give the Wellington, Grey and Bruce Railway Company reasonable time to prove their earnestness and good faith,

I remain,

Yours truly,

THOS. WHITE, JR.

Hamilton, Jan., 20th, 1868.

italists  
ing the  
forward

satisfy  
ence of  
of the  
y Com-  
estness  
at, until  
l result  
yers to  
s have  
m com-  
nd they  
y them  
ay.

ere the  
ill have  
nmittee  
pplica-  
ut there  
erceive  
the To-  
ich de-  
first is,  
uilt for  
0,000 a  
ort for  
g that  
y price  
ly level  
e their  
undred  
Grand  
ompel-  
t of the  
ge will  
guage,  
as the  
starts.

these  
ed ad-  
ruth is,  
ge rail-  
gh they  
ot been  
a have  
of rail-  
man of  
suited  
ely set-

will at  
l Bruce  
o prove

, Jr.